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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,027	11/03/2003	Samuel Barran Tafoya	0310-TAFO	3420

7590 07/12/2004

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EXAMINER

BASINGER, SHERMAN D

ART UNIT	PAPER NUMBER
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3617

DATE MAILED: 07/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/700,027	TAFOYA ET AL.	
	Examiner	Art Unit	
	Sherman D. Basinger	3617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-15 is/are allowed.
- 6) ☒ Claim(s) 1-10 and 16-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The graph on page 7 of the specification should be deleted. See MPEP 608.01 "Illustrations In The Specification". The graph should be shown in the drawings in accordance with 37 C.F.R. 1.81.

Claim Objections

2. Claim 13 is objected to because of the following informalities: a period should be inserted at the end of claim 13. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-10 and 16-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitations "for a total thrust reaction in fluid exiting said discharge opening of at least approximately twenty percent more than conventional propulsion systems of comparable size" and "a total thrust reaction for the marine vessel of at least twenty percent more than conventional propulsion systems of comparable size" do not let the metes and bounds of claim 1 and 16 be determined because it cannot be determined what "conventional propulsion systems of comparable size" are.

In claim 3 "said fluid inflow means" has no clear antecedent.

In claim 17 "said fluid inflow means" and "said smaller end" have no clear antecedent.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 5, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aschauer 961 in view of Dahle and Aschauer 526.

Aschauer 961 discloses marine reaction thruster U for use within a marine hull, said thruster comprising:

an elongated housing H having a cross-sectional configuration and opposing ends, a drive

shaft opening through one of said opposing ends and a discharge opening through the other of

said opposing ends, a wide end adjacent to said drive shaft opening, a bottom fluid inlet 1

opening in said wide end, a tapering central portion, and a tapering narrow end;

a drive shaft 6,8 extending longitudinally through said housing between said drive shaft opening and said narrow end of said housing, said drive shaft having a distal end at hub 15a;

a plurality of propellers 10,12 having different diameter dimensions, each of said propellers

being supported by said drive shaft and positioned for rotation within said tapering central

portion of said housing, with the largest one of said propellers 10 being adjacent to said inlet

opening and the remainder of said propellers 12 being positioned according to decreasing size, said diameter dimensions of said propellers being selected to substantially fill said cross-sectional configuration of said housing H.

Aschauer does not disclose an upper opening with the tapering central portion between the inlet opening and the upper opening and with the tapering narrow end between the upper opening and the discharge opening, inflow inducing means adapted for causing a large volume of fluid to flow through said inlet opening of said housing and into said wide end of said housing; and strut means associated with said upper opening in said housing and adapted for securing said distal end of said drive shaft.

Note in Dahle the upper opening for strut 65. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to provide an upper opening and strut similar to those of Dahle to support the end of the shafts of Aschauer 961. Motivation to do so can be found in column 3, lines 1-5 of Dahle. When providing struts similar to 65 and 67 of Dahle to support the end of shafts 6 and 8 of Aschauer 961, in Aschauer 961 the tapering central

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portion will extend between the inlet opening and the upper opening and the tapering narrow end will extend between the upper opening and the discharge opening.

Aschauer 526 discloses inflow inducing means 1g which is adapted for causing a large volume of fluid to flow through said

inlet opening of the housing H and into the wide end of the housing H. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to provide inflow inducing means similar to 1g of Aschauer 526 to Aschauer 961. Motivation to do so is that an inflow inducing means similar to 1g of Aschauer 961 will better direct water into the pump housing due to its scoop like nature and due to the opening facing in the direction of incoming water.

Aschauer 961 does not disclose propellers 10 and 12 having a maximum pitch angle of 10 degrees to 12 degrees for elimination of out gassing and cavitation. However, to make the maximum pitch of the propeller of Aschauer 961 with pitch angles of 10 degrees to 12 degrees for elimination of out gassing and cavitation would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Motivation to do so is to decrease cavitation as cavitation has a detrimental effect on propeller blades.

The front casting of Aschauer 961 is the housing for the gear reduction means 7.

The method steps set forth in claims 16 and 20 are met by the combination of Aschauer 961, Dahle and Aschauer 526 as combined above.

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7. Claims 6-8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aschauer 961, Dahle, and Aschauer 526 as applied to claim 6-8 and 18 above, and further in view of Smith.

Aschauer 961 does not disclose a reverse and steering assembly aligned with the one of said opposing ends of said housing having said discharge opening, and wherein

said reverse and steering assembly comprises rudders and a movable gate selectively positioned

to block rearward flow of fluid exiting said discharge opening of said housing and traveling

through said reverse and steering assembly, and wherein said rudders are connected by a tie bar and have

Ackerman geometry that allows one to move more than the other and vice versa, and wherein said rudders have a crescent-shaped configuration.

Smith discloses a reverse and steering assembly aligned

with the one of said opposing ends of his housing having his discharge opening, and wherein

said reverse and steering assembly comprises rudders 55 and a movable gate 40 selectively positioned

to block rearward flow of fluid exiting said discharge opening of said housing and traveling

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through said reverse and steering assembly, and wherein said rudders 55 are connected by a tie bar 81 and have

Ackerman geometry that allows one to move more than the other and vice versa, and wherein said rudders have a crescent-shaped configuration (see figure 4).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to replace the steering assembly of Aschauer 961 with a steering assembly similar to that of Smith. Motivation to do so can be found in column 1, lines 29-32.

With regard to claim 18, the steering and reverse assembly similar to that of Smith will clearly be aligned with the discharge opening of Aschauer 961. Absent this, it would be ineffective.

Allowable Subject Matter

8. Claims 11-15 are allowed.

9. Claims 3, 4, 9, 10, 17 and 19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Abramson is cited to show the multistage jet pump. Burg is cited to show the debris cutter 60.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sherman D. Basinger whose telephone number is 703-308-1139. The examiner can normally be reached on M-F (6:00-2:30 ET).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samuel J. Morano can be reached on 703-308-0230. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sherman D. Basinger
Primary Examiner
Art Unit 3617

7/1/04

sdb
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